

REMARKS

Currently, claims 1, 2, 4, 6, 21, 23-28, 31-34, 38-41, 43, 45-54, 56-57, 59, 61-70, and 72 are pending in the present application, including independent claims 1, 38, and 39. Claims 1, 38, 39, and 59 have been amended, while claims 8, 35, 42, 55, 58, and 71 have been canceled due to the introduction of the limitation of a carbonate salt into claims 1, 38, and 39. Claim 1 is, for instance, directed to an oxygen-delivery wound treatment device. The oxygen-delivery wound treatment device includes a biocompatible, single unit matrix for delivering oxygen. The matrix further includes a swellable, cross-linked polyacrylamide polymer network and deliverable oxygen in elastic closed cells that are permeable to gas within the cross-linked polyacrylamide polymer network. After the polyacrylamide polymer network is cross-linked, the closed cells are formed by oxygen, which is produced by reacting a catalyst, which is a carbonate salt, and a second reactant. With use of the matrix, oxygen is delivered from the closed cells.

The Office Action rejects claims 1, 38, and 39, along with their dependent claims, under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,792,090 to Ladin in view of WO 90/03810 to Geistlich, et al. and U.S. Patent Application Publication No. 2002/0042587 to Murdock. Ladin is directed to a wound dressing that supplies oxygen to a wound, whereby the oxygen is formed through a chemical reaction of hydrogen peroxide with a decomposition catalyst. See Ladin, abstract. Ladin further describes that the decomposition catalyst is a solid that is preferably either insoluble or substantially insoluble in water. See Ladin, col. 6, ll. 6-11. While a catalyst that is soluble in water is disclosed, the only examples given are ferric chloride and potassium

permanganate. See Ladin, col. 6, ll. 11-12 and 24-26. Further, Ladin explains that water soluble catalysts should be used only if they generate soluble moieties which are adsorbed or not transmitted by the oxygen permeable membrane or other adsorbent contained in the dressing. See Ladin, col. 6, ll. 11-14.

Nowhere does Ladin discuss, however, the use of a carbonate salt as a catalyst, which is a limitation of amended claims 1, 38, and 39. In contrast to Ladin, the pending claims describe the use of a carbonate salt as a catalyst used to decompose hydrogen peroxide into oxygen for use in an oxygen delivery device. For example, the examples in the pending application show that sodium carbonate is suitable as a decomposition catalyst because its use does not cause decomposition of the polyacrylamide matrix, which can be seen when other water soluble catalysts, such as ferric chloride and cupric chloride, are used as the decomposition catalyst. See ¶¶ [0150]-[0164].

Although Ladin briefly describes the use of water soluble catalysts, Applicants submit that one of ordinary skill in the art would have been discouraged from using a carbonate salt as the particular water soluble catalyst based on the teaching of water soluble catalysts such ferric chloride as disclosed in Ladin.

Based on common sense and what is taught in Ladin, someone determining the feasibility of using a water soluble catalyst would first attempt to use ferric chloride as a catalyst. However, ferric chloride has been shown to cause the polyacrylamide matrix of the pending claims to dissolve. See ¶ [0157]. Further, other water soluble catalysts, such as cupric chloride, have also been shown to cause the polyacrylamide matrix of the pending claims to dissolve. See ¶ [0156]. Although these particular water soluble catalysts have been shown to cause degradation of the polyacrylamide matrix due to

their causing an overly strong decomposition of hydrogen peroxide, other water soluble catalysts, namely carbonate salts, have not been shown to have such a detrimental effect. See ¶ [0158], [0164]. Thus, Applicants note that not all "water soluble catalysts" have the same effect on the polyacrylamide matrix of the pending claims, and Applicants submit that one considering Ladin would not expend the additional time, effort, or resources in testing all water soluble catalysts to determine whether a catalyst such as sodium carbonate existed that would not cause the polyacrylamide matrix to dissolve as do the soluble catalysts disclosed in Ladin. For at least this reason, Applicants submit that the pending claims are not obvious when considering Ladin.

Further, Applicants point out that Geistlich, et al. and Murdock are only cited for the such limitations as a cross-linked polyacrylamide and a closed cell foam for delivering active agents to a wound and do not cure the deficiencies of Ladin with respect to how oxygen is formed in the device via hydrogen peroxide and a catalyst. Therefore, Applicants submit that the pending claims are not obvious when combining Ladin with these two references. Applicants note that in order to establish a *prima facie* case of obviousness, in addition to other requirements, the prior art references must teach or suggest all the claim limitations. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). Because the references as combined fail to describe the use of a catalyst that is sodium carbonate, Applicants respectfully request that the 35 U.S.C. § 103(a) rejection of claims 1, 38 and 39 be withdrawn.

Applicants also respectfully assert that for at least the reasons indicated above relating to corresponding independent claims 1, 38, and 39, the pending dependent claims patentably define over the references cited. However, the patentability of the

dependent claims certainly does not hinge on the patentability of independent claims 1, 38, and 39. In particular, it is believed that some or all of these claims may possess features that are independently patentable, regardless of the patentability of the independent claims 1, 38, and 39.

Based on these remarks, Applicants submit that the present application is in complete condition for allowance and favorable action, therefore, is respectfully requested. Should any issues remain after consideration of this amendment, however, then Examiner Ghali is invited and encouraged to telephone the undersigned in the hopes of expediting prosecution.

Please charge any additional fees required by this Response to Deposit Account No. 04-1403.

Respectfully submitted,

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